Application No.: 09/742,686   **Atty Docket: 3COM 3354-1**

In the Claims:

The following is a list of claims pending in this application and their current status. This list replaces all prior versions and listings.

1. (Currently amended) A method of determining an optimum bit load per subchannel in a multicarrier system with forward error correction, comprising:

computing one or more values of a number of bit positions b of a quadrature-amplitude-modulation symbol, based on one or more values of a number of symbols in [[the]] an information field K, and one or more values of a number of control code symbols per discrete-multi-tone symbol z, to provide one or more determined values of b, in accordance with the following relationship:

$$1 - \left(1 - W(s,z,K)\varepsilon_s^{\frac{1}{0.5 \cdot sz + 1}}\right)^{1/\alpha}$$

$$= \omega\!\left(b\!\left(\gamma_{\textit{eff}}, s, z\right)\right)\!\left(1 - 2^{-b(\gamma_{\textit{eff}}, s, z)/2}\right)\textit{erfc}\!\left(\sqrt{3 \cdot 10^{\gamma_{\textit{eff}}/10} / \left(2^{b(\gamma_{\textit{eff}}, s, z)+1} - 2\right)}\right),$$

$$\times\left[2 - \left(1 - 2^{-b(\gamma_{\textit{eff}}, s, z)/2}\right)\textit{erfc}\!\left(\sqrt{3 \cdot 10^{\gamma_{\textit{eff}}/10} / \left(2^{b(\gamma_{\textit{eff}}, s, z)+1} - 2\right)}\right)\right]$$

$$W(s,z,K) = \left[\frac{\Gamma(K + \rho s + sz)}{\Gamma(K + \rho s + 0.5 \cdot sz)\Gamma(0.5 \cdot sz + 1)}\right]^{-1/(0.5 \cdot sz + 1)}$$

$$\omega(b) = \frac{4}{2b + 3},$$

$$\Gamma(x) = (x-1)!, \text{ and}$$

$$b(\gamma_{\textit{eff}}, s, z) = \frac{\alpha}{sn_{\textit{eff}}}(K + \rho s + zs)$$

s represents a number of discrete-multi-tone symbols in a frame, ε_s represents a symbol error rate, α represents the size of a code symbol, ρ represents a framing mode index, $\omega(b)$ represents an average fraction of erroneous bits in an erroneous b-sized quadrature-

Page 2 of 16